

Notice of Allowability

Application No.

10/055,820

Examiner

Jerry A. Lorengo

Applicant(s)

RICHMOND ET AL.

Art Unit

1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to August 5, 2004.
2. ☒ The allowed claim(s) is/are 19-29 and 34-41.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

(1)

Election/Restrictions

Applicant's election without traverse of Group II, claims 19-29 and 34 in the reply filed on August 5, 2004 is acknowledged.

(2)

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

The Title of the Invention has been changed to read as follows:

"Methods for Making Composite Bonded Structures"

(3)

Allowable Subject Matter

Claims 19-29 and 34-41 have been found to be allowable over the prior art of record.

(4)

The following is an examiner's statement of reasons for allowance:

Methods for the formation of unitary composite (silicon carbide) composite bodies through the use of a key and key-way, such as taught by U.S. Patent No. 5,310,434 to Vives et al., are known in the art. The process of Vives et al., for example, comprises the steps of: (1) Providing a first and second preforms containing carbon (such as silicon carbide infiltrated carbon) to be joined into contact with one another such that a boundary zone is formed between the preforms; providing a key comprising a mechanical locking preform containing carbon; providing a keyway having a size and shape to as to engage the key; placing the key in the keyway across the boundary zone such that the key mechanically locks the first and second preforms relative to one another; providing an infiltrant material; and infiltrating the infiltrant material into the first and second preforms and key such that the infiltrant reacts with carbon making up the preforms and key such that a unitary composite body is formed. Although Vives

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et al. disclose that the key (dowel) may be formed through the cutting of a composite body, neither they nor any of the prior art of record specifically teach or suggest such a method as set forth in applicant claims 19, 24 and 34 wherein the key is sufficiently self-bonded as to permit its being green machined. Likewise, none of the prior art of record specifically teaches or suggests the use of a key comprising a mechanical locking reaction-bonded silicon carbide body, as set forth in applicant claims 23 and 25 and one of ordinary skill in the art would not have been motivated to substitute such a material for the key (dowel) of Vives et al. motivated by the fact that Vives et al. relies on the spring-back nature of the 3D woven material making up the dowel to mechanically lock the preforms together prior to infiltration.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

(5)

Response to Amendments and Arguments

The amendments and arguments filed August 5, 2004 are acknowledged. In response to the amendments to applicant claims 19, 23, 24, 25 and 34, claims 19-22, 24 and 34-41 have been indicated as allowable over the prior art of record as set forth and explained in sections (2) and (3), above.

(6)

Drawings

The application having been allowed, formal drawings are required in response to this Office Action as the drawings filed on January 23, 2002 appear to be informal.

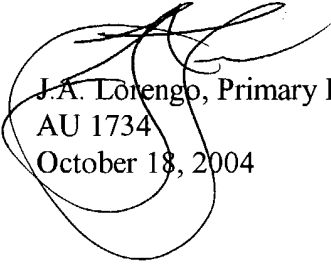
(7)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry A. Lorengo whose telephone number is (571) 272-1233. The examiner can normally be reached on Monday through Friday, 8:30 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J.A. Lorengo, Primary Examiner

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October 18, 2004